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(54) Title of Invention: Transportation Information Display System

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SPECIFICATION

1. Title of Invention: Transportation Information Display System

2. Claims

(1) A transportation information display system consists of information communication display parts using video display devices; the information display part command devices are control parts which are installed in each station; an information display system which is linked to a central control part which provides overall control over the control parts; and the information communication display parts are integrated and combined into automated passenger ticket vending machines which are installed in stations.

(2) The video display device of the information display system of Claim 1 is integrated and combined into the top or bottom of an automated passenger ticket vending machine.

(3) The video display device of the information display system of Claim 1 is integrated and combined either into

the left or right or on both sides of an automated passenger ticket vending machine.

(4) A transportation information display system consists of information communication display parts using video display devices; the information display part command devices are control parts which are installed in each station; an information display system which is linked to a central control part which provides overall control over the control parts; and the information communication display parts are suspended within train cars to form advertising parts.

(5) The information communication display part using a video display device of the information display system of Claim 4 is an advertising part on both side walls of the interior of a train car.

(6) A transportation information display system consists of information communication display parts using video display devices; the information display part command devices are control parts which are installed in each station; an information display system which is linked to a central control part which provides overall control over the control parts; and the information communication display parts are

mounted on the rear walls of newspaper stands which are installed on platforms.

3. Detailed Description of the Invention

Industrial Field of Use

This invention pertains to the provision of information systems that can selectively display a variety of multifunctional information in stations, in between stations, or in train cars which are underway, and to the provision of instructional devices.

Prior Art

Conventionally, posters and announcements have frequently been used to provide information in railroad and bus stations, airports, and the like.

However, although announcements can provide information to a large number of individuals simultaneously, announcements have the shortcoming of being ephemeral and difficult to hear in noisy locations, then they are often misheard.

Moreover, although posters and the like have visual impact, their shortcoming is that they are extremely labor-intensive since their content cannot be changed in real-time and each and every poster needs to be replaced.

Naturally, the control parts G may be constituted so as to have their own broadcast functions to interrupt transmitted instructions from the central control part H.

The information communication display parts J are formed of a video display device such as a cathode ray tube or liquid crystal panel, or the like which displays not only static images, but dynamic images, as well.

The following is a description of an example of the control system of the information communication display part J made with reference to the block diagram in Fig. 5.

The control parts G which are linked to the central control part H have a control computer which has a data communications function and the control computer is linked under its control to the following devices via control communications pathways:

- (1) A video switcher which is an image signal switching device;
- (2) An image memory;
- (3) A video disk device which facilitates selection and playback of the desired images by means of external signals via the controller;
- (4) A video tape recorder via the controller;
- (5) Videodisc players which are installed in stations or train cars;
- (6) The following devices which have image production and editing functionality:

- ① Operating console

In recent years, dynamic image visual information displays have been proposed, but most of these simply involve the installation of television cathode ray tubes or other such display devices, then the content of the information thus provided has been limited.

In the future, the roles of stations in urban areas will no longer be limited to transportation hubs, and they will increasingly serve as bases for local culture.

It is therefore an objective of the present invention to establish an information provision system which is appropriate for the changing roles of stations and which is not limited to the display of static information in single stations.

Embodiments

The following is a description of the details of this invention made with reference to the figures.

As illustrated in Fig. 4, the total system of the present invention is comprised of information communication display parts J which are the terminal devices, a control part G which provides overall control over the information communication display parts J..., And a central control part H which provides overall control over the control parts G....

② Hard disk

③ Floppy disk

④ Printer

and other peripheral devices;

- (7) Data transmission pathways via the communications controller.

Moreover, in the channels having video switchers are:

- (1) a video memory which is linked to a control computer via the control communication path which is linked via a video signal converter;
- (2) a videodisc which is linked to the control computer via the controller and the control communication pathways;
- (3) a videotape recorder which is linked to the control computer via the controller and the control communication pathways;
- (4) image transmission pathways; which are linked to
- (5) the video display devices J which are installed in stations or train cars, and linked to the central control part H by means of the data transmission pathways and image transmission pathways.

In this way, the video display devices J.... receive the channel selection signal output from the control computers

by means of the control communication pathways which are connected to the control computer, [the video display devices J....] are connected to the image signal switching device which is the video switcher that performs the function of switching channels, and each [of the video display devices J....] functions as individual display parts thereby.

Moreover, the video switcher has channels 1 ~n and, for example, n-4 video display devices may be connected to channels 5 ~n.

In this case, channel 1 is connected to image memory that the control computer can read and write via the video signal converter and, furthermore, the image memory is connected to the control communication pathway and placed under the control of the control computer.

Channel 2 is connected to the videodisc and, further, the videodisc is linked via the controller to the control communication pathway, and is placed under the control of the control computer.

Channel 3 is connected to the video tape recorder and, further, the video tape recorder is linked via the controller to the control communication pathway, and is placed under the control of the control computer.

For example, images that have been stored ahead of time in the videodisc can automatically and sequentially be played back according to a schedule that has been programmed into the control computer, and images can be created and edited using the computer and peripheral devices thereby so that this information is outputted via the primary storage devices of the image memory, etc. and the video signal converter.

Moreover, it is possible to interrupt the control computer via the data transmission pathway, to transmit dynamic images and static images via the image transmission pathway, and to display this information on the video display device, to store it to the video tape recorder or to the image memory, etc., and vice versa.

Each of these functions can be performed between the control computer of the central control part H and the control computers of each of the stations as well as between the control computer and the control computers of other stations because these functions are linked to each of the data transmission pathways.

Channel 4 is linked directly to the image transmission pathway.

Moreover, the control computer logically manages a variety of information by means of terminals (control operating consoles), hard disks, floppy disks, and other means, and [the control computer] is connected via the control communication pathways to these peripheral devices which are to be operated.

Further, data transmission pathways are connected between the other control parts G (between stations) between central control parts H (between the central control part H and stations), via communication controllers having bidirectional data communication pathway functions.

Apart from not having video display devices connected to a video switcher, the constitution of the central control part H is approximately identical to the constitution of the aforementioned control part G.

Therefore, in an operational state, by providing selection signals from the control computer to the video switcher, the various devices (image memory, videodisc device, videotape recorder) which are connected to the video switcher can transmit independent images to each of the video display devices by means of the image transmission pathways.

The display devices J that are the terminal devices which determine the system configuration of this invention may be combined and integrated and combined into the automated passenger ticket vending machines that are installed in each station, as illustrated in Fig. 1.

1 it is an automated passenger ticket vending machine, and with the operating part A serving as the automated passenger ticket vending function on the front of the vending machine 1, the vending machine 1 is provided with a coin insertion slot 2 for ¥100 coins and the like, a bill insertion slot 3 for ¥1000 bills and the like, a card insertion slot 4, fare pushbuttons 5, and a ticket and change dispenser 6.

These operating parts A are formed in the lower part 1b of the front panel of the machine unit.

Meanwhile, a space 7 by means of a stepped part is formed in the upper part 1a of the front panel of the machine unit.

This space 7 is for the insertion and integrated installation of an information transmission device J (not shown) which is a video display device.

However, the use of this part need not be restricted to this type of information transmission device J and may, for example, be used as a space in which to place pamphlets,

and may otherwise be used to integrate a variety of devices, such as card selling machines.

Furthermore, the shape of the space area 4 and the location of integration with the ticket vending machine need not be limited to the upper part illustrated, and a variety of design changes are possible.

When the operation of the vending machine 1 operating console A and the control part G are linked, an output part is provided on the operating console A side in which the changes in the leakage electrical field of the input information that is coded by the operation of each function is converted and transmitted, and a host device which reads the information which is outputted by the output part is provided on the control part C side.

Since combinations of each type of device are possible in this configuration, it is acceptable to change only those devices which are worn or are to be upgraded.

In a second embodiment, a suspended advertising part 8 is formed in a train car as illustrated in Fig. 2.

An information transmission display part J is formed of an advertising part 8 which is suspended and hangs down from the ceiling in the form of a panel advertising part 8 consisting of a panel-type such as a liquid crystal panel, or the like, within a mounting frame.

modes of transport can be shown in graphic detail in the event of, for example, incidents within a station because the desired dynamic or static images can be displayed on a sequential information communication display part by commands from a control part without having to change the display part.

Moreover, the same system can be used in the event of incidents in the vicinity of a station and transportation information provided thereby.

Furthermore, the appropriate instructions can be given to passengers because information can be exchanged with other stations or with train cars which are underway and individual passengers can make the decisions that are right for them without confusion.

In this case, although it is obvious that the same broadcast can be made on all information communication display screens, when necessary, information can be displayed only in stations within a specific block.

Therefore, this invention performs a wide variety of information provision and management functions in which a wide range of instructions can be provided to passengers or passersby, as well as station area information, advertisements about special events, and the like. It is therefore a

This information transmission display part J may also be formed on the sidewall 9 of the train car.

In this constitution, it is unnecessary to replace each and every poster as in the prior art. The content of the information can be instantly changed as desired even when the train car is in motion, and a wide range of information content can be selected.

In a third embodiment, [the invention] is formed on the rear wall of a newspaper stand 10 which is installed on a platform.

The rear wall of the newspaper stand 10 which is installed on a platform is an unused area which is currently used for the placement of a trash can for the like. A cathode ray tube or panel-type information transmission display part J is configured on this wall surface.

Furthermore, an interactive type information providing system is also possible by providing an operating console J1 or a touch panel-type information transmission display part because, given the location, there is adequate space.

Effect of the Invention

Given the present invention as constituted above, [passengers] can be guided or turnstiles closed, detailed explanations of the accident situation provided, or alternative

multipurpose, economical, and up-to-date system which supports the increasing centrality and importance of stations as terminals by constituting a combination of a variety of devices therein.

4. Brief Description of the Drawings

Figs. 1-3 show in embodiment of the information communication display part of the present invention. Fig. 4 is an integration drawing of the system of the present invention. Fig. 5 is a block diagram illustrating the configuration of the control part.

- A Passenger ticket automated vending machine operating part
- J Information communication display part
- C Control part
- H Central control part

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Fig. 1

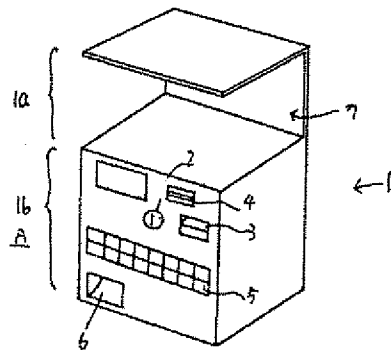


Fig. 2

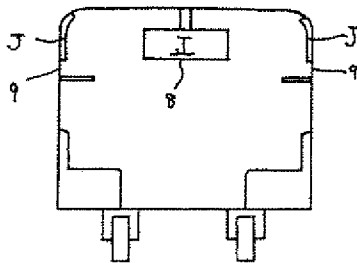


Fig. 3

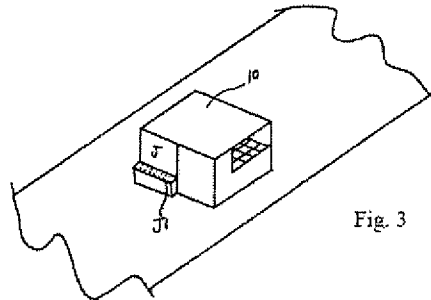


Fig. 4

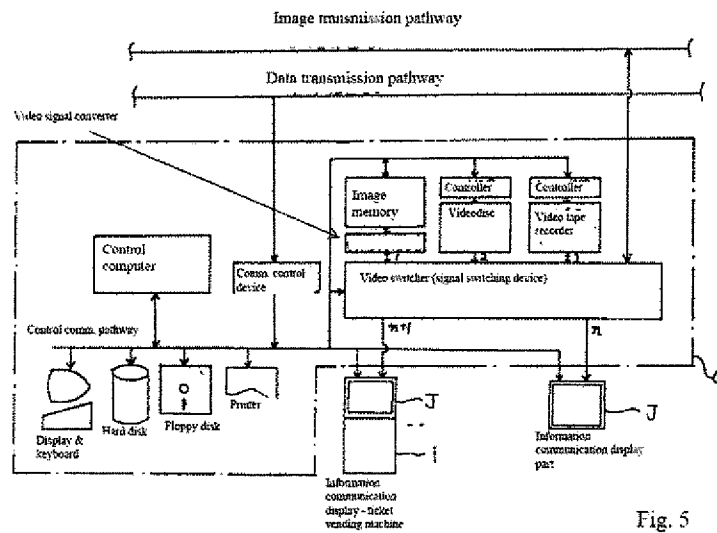
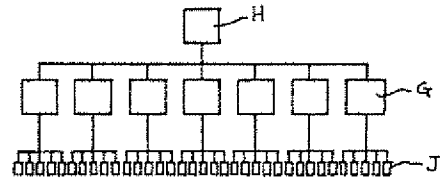


Fig. 5